PROCEEDINGS

of the

American Society

of

Civil Engineers

INSTITUTED 1852

VOL. 54 NOVEMBER, 1928 No. 9

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SOCIETY AFFAIRS

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AMERICAN SOCIETY OF CIVIL ENGINEERS

PROCEEDINGS

VOL. 54 NOVEMBER, 1928 NO. 9

SOCIETY AFFAIRS

NOMINATIONS FOR SOCIETY OFFICERS

In accordance with the Constitutional provisions, the Directors of the Society, together with the two last living Vice-Presidents, constituting the Nominating Committee, met in San Diego, Calif., on Saturday, September 29, for the purpose of nominating a President of the Society for the year 1929. As a result of this meeting, the Committee announced the nomination of Anson Marston, M. Am. Soc. C. E., who thus becomes the "Official Nominee for President."

On October 15, the "second ballot" for nominations to fill other Society offices was canvassed as reported elsewhere in more detail. The combination of these two actions determines the list of "Official Nominees" for Society officers for the coming year, as follows:

For President, Anson Marston.
For Vice-President, Zone II, Arthur J. Dyer.
For Vice-President, Zone III, A. J. Hammond.
For Directors,

District No. 3, George H. Norton.
District No. 5, F. L. Nicholson.
District No. 7, Ralph Budd.
District No. 8, A. F. Reichmann.
District No. 9, Clyde T. Morris.
District No. 12, Joseph Jacobs.

OCTOBER SOCIETY MEETING

For the regular meeting of the Society, October 3, 1928, the topic selected for discussion was entitled "Letting Construction Work by Competitive Bidding", by Edward W. Bush, M. Am. Soc. C. E., in accordance with the paper published in this issue of *Proceedings*. The presentation of the question followed the appointment of Tellers to canvass ballots for a Constitutional Amendment.

In presenting the paper, J. S. Langthorn, M. Am. Soc. C. E., quoted in part from the paper itself, which was available in preprint form. Each issue raised by the paper was fortified by an argument and by a pithy statement of the principles emphasized, in all, thirty-nine separate points.

As these covered a wide range of interest, the discussion following likewise represented many points of view as presented by various members. Messrs. Herbert M. Knight and Ernest Nicholson spoke from the standpoint of the Surety Companies; John C. Wait showed the legal background; Lazarus White, viewed the issues as a contractor; whereas A. E. Waldron, H. G. Bernstein, and E. W. Stearns represented the "engineer or architect" of the ordinary contract procedure. All in all the discussion was animated and valuable.

During the meeting a report was received from the Tellers who had canvassed the ballots on the Constitutional Amendment, showing that the membership approved the increase in the provision for Honorary Members of the Society. Director George L. Lucas presided. The attendance was about 140.

NEW FREEMAN FUND SCHOLAR

To fill the vacancy in the number of engineers studying hydraulic laboratory methods in Europe, the Committee on the Freeman Fund Scholarship announces the appointment of Clarence E. Bardsley, of Rolla, Mo. Professor Bardsley will be on leave from his teaching work at the University of Missouri.

His engineering training includes undergraduate work at the Missouri School of Mines, Master's Degree from the University of Missouri, and a Doctorate from the University of Michigan. This training should well fit him for his work in Germany.

Having left New York on October 13, he therefore has recently reached his destination and is about to undertake his studies. In addition, Lorenz G. Straub, Jun. Am. Soc. C. E., who has already spent one year in Germany, will continue his work under the provisions of this award. These two men, therefore, constitute the Society's representatives for the coming year. The Committee on the Freeman Award Fund comprises John R. Freeman, Past-President, Am. Soc. C. E., and Thaddeus Merriman and Walter E. Spear, Members, Am. Soc. C. E.

POLICIES FOR DEVELOPING SOCIETY FUNCTIONS

As a result of intensive study recently by Society Committees, and discussion within the Board of Direction, especially at its San Diego Meeting, several policies for future Society work are crystallizing. Most of these mark an advance in the scope or handling of matters already within the purview of Society activities. A few of the general ideas behind these new policies can only be given now in the form of a sketchy outline; more definite details will doubtless appear in the course of development.

Registration

One phase concerns the question of registration. As instructed by the Board of Direction, its Committee on Registration of Engineers is to undertake a general analysis of the present situation in the twenty-four States now having legislation covering these matters.

Data will be collected covering the details and effectiveness of these various laws. These details, when assembled, should prove of great value to the Board in its consideration of the many matters which arise incidental to this important phase of engineering work.

Local Section Conferences

Of especial interest to the Local Sections will be the policy of holding more conferences of their representatives. This follows the recommendation of the Local Sections Committee of the Board. In themselves these conferences would have, so to speak, a local or regional atmosphere. The thought is not so much the assembling of representatives from the entire country at once, but rather to provide a meeting ground for those localities contributory to the immediate vicinity of the meeting place.

Many matters of engineering interest have intense local significance so that such representatives would find a special advantage in discussion. The problems and possible activities of such a group should afford valuable subjects for these meetings. In establishing this policy the Board has in mind to increase the service of adjacent Sections one to another and thus give added advantages to the work of each Section.

Developing Research

More clarification of the research activities of the Society should result from the policy adopted on the recommendation of the Technical Expansion Committee. Through the establishment of the proper machinery the Technical Divisions may take over research work of a nature appropriate to them. On the other hand, research work of a different character will best be handled through Special Committees of the Society.

Another phase of this general subject concerns what may be called research projects; by this is meant intensive investigation or analysis that involves larger appropriations than the Society itself could possibly be expected to provide. At the same time these studies, being more important, might be expected to yield results such as would make the effort appeal to private or public parties who would be willing to join in the work, especially in the financing. The establishment of appropriate machinery for these various divisions of research work should go far in the expectation of the Board in co-ordinating and promoting these technical matters.

Quarterly Meetings

The question of Quarterly Meetings also received the attention of the Board, resulting in the adoption of a fourth policy. In suggesting this, the idea of the Technical Expansion Committee was to place a more definite responsibility on the appropriate officers of the Society. For any given meeting these might include the Vice-Presidents, Directors, and the Presidents and Secretaries of the Local Sections within the zone affected. Not only would these men assist in selecting the proper meeting place, but they would help to develop the type of the meeting most

urgently needed for that general neighborhood. Accordingly, the Board requested the Technical Expansion Committee to develop the details necessary to put such a plan into operation.

New Alignment of Society Work

As a fifth and last matter of policy, the Board requested the Committee on Technical Expansion to suggest a procedure to effect a revised alignment of Society activities. In this re-arrangement as suggested by the Committee, the several present non-technical activities of the Society might be joined with new activities of a comparable nature and made into a department of Society work more or less parallel and equal with the present technical activities.

For example, many technical phases of engineering have been intensified by the interest taken by Technical Divisions. In a similar way and within the limits of the budget, non-technical or professional activities directly affecting the civil engineer would be developed by Committees, each working within an assigned field. While the many aspects of this new work are not as yet clearly defined, they would probably include the present Committees on Local Sections, Student Chapters, Registration of Engineers, Charges for Professional Services, Salaries of Public and Quasi-Public Employees, and probably one or more new Committees, all with the intent of enhancing the status of the engineer.

CONSTITUTIONAL AMENDMENT ON HONORARY MEMBERSHIP

By a ballot canvassed on October 3, 1928, members of the Society voted to change the Constitutional provisions limiting the number of Honorary Members so that henceforth the Article covering this matter (Article II, Section 8) will read:

"Honorary Members shall be chosen only from persons of acknowledged eminence in some branch of engineering or the sciences related thereto. There shall not be at any one time more than one Honorary Member for every three hundred Corporate Members. Not more than five Honorary Members shall be elected in any one year."

As announced during the Society meeting, October 3:

"The Tellers appointed to canvass the Ballot on Amendment to the Constitution report as follows:

Total number of ballots received		3 357
Deduct:		
Blank envelopes.	1	
Ballots from members in arrears of dues	72	
Ballots without signature	21	
Ballots not canvassed		94
Ballots canvassed		3 263
Deduct:		
Void ballots	5	
Bank ballots	7	
Total ballots not counted		12
Ballots counted		3 251

"Shall the Proposed Amendment to the Constitution, accompanying circular dated August 17, 1928, be adopted?"

Yes 3 054
No. 197
"Necessary to adopt.... 2 168

"Respectfully submitted,
"WM. G. GROVE, *Chairman*,
HAROLD T. LARSEN,
J. C. ENGELHART,
J. W. PERRY,
H. RIDGWAY,
M. KINCAID,
T. B. RIGHTS,
E. H. ALDRICH,
WARREN GARDNER,
JAMES H. FITZGERALD,
HARRISON TILGHMAN,
THOMAS K. A. HENDRICK,
"Tellers."

PRIZE WINNERS

The Report of the Committee on Prizes and Awards, confirmed by the action of the Board of Direction, determines the winners of Society prizes for the current year. These awards are made on the basis of papers appearing in Vol. 91 (December, 1927), of the *Transactions* of the Society. The list is as follows:

"The Norman Medal, to Paper 1641, entitled 'Storage Required for the Regulation of Stream Flow', by Charles E. Sudler, M. Am. Soc. C. E.

"The Rowland Prize, to Paper 1631, entitled 'Producing Concrete of Uniform Quality', by Roderick B. Young, Esq.

"The Laurie Prize, to Paper 1627, entitled 'The Ancient Roman Aqueduct at Athens', by James F. Case, M. Am. Soc. C. E.

"The Wellington Prize, to Paper 1648, entitled 'The New York State Barge Canal and Its Operation', by Roy G. Finch, M. Am. Soc. C. E.

"The Collingwood Prize for Juniors, to Paper 1640, entitled, 'The Design, Construction, and Operation of a Small Sewage Disposal Plant', by Franklin Hudson, Jr., Jun. Am. Soc. C. E. (now Assoc. M. Am. Soc. C. E.)."

At the time of the Annual Meeting, in January, 1929, the ceremony of officially awarding these prizes will take place.

APPOINTMENTS OF SOCIETY REPRESENTATIVES

Among the various recent appointees to represent the Society are the following:

Board of Trustees of United Engineering Society: Lincoln Bush, President, Am. Soc. C. E.

Washington Award Committee: Warren Russel Roberts, M. Am. Soc. C. E.

Board of Engineering Societies Library: Walter E. Spear, M. Am. Soc. C. E.

PROBLEMS OF FINANCING LIBRARY SERVICE

The Engineering Societies Library is an institution that is suffering because too many engineers find it useful. It is under the same strain to balance service and income as is every college or university.

In ten years the number of users has more than doubled. No business can be doubled without increased expense, and that has proved true with the Library. It has been able to reduce per capita expense slightly, in spite of increasing costs, but the total expense has risen.

Another difficulty comes from a changing point of view as to the function of a reference library, which is affecting all the important libraries of the country. Users are expecting more and more that the librarian act as an expert consultant in problems that books can answer. Once his duties were ended when he collected the books; now he is asked to produce, instead of a book, a definite answer to a specific question. To do this, a much higher grade of worker is necessary, and more men are needed. The answer must be sought from book to book and magazine to magazine. The searcher has to know the subject and has to spend time on the search.

Systematic Indexing

Experience in this new type of work shows clearly some ways in which it could be made more efficient, and at the same time more economical of time and cost. Some of the methods are obvious and have been long discussed by librarians. Many libraries are eager to adopt them, but are unable to finance them.

One of the most obvious is the economy offered by systematic indexing. A great amount is spent each year in indexing engineering literature, yet there is no place in America where a man can consult a complete index.

As matters are, the Library can offer an inquirer three or four hundred volumes of indexes; and by looking through all of them, he probably will find everything of real importance on his subject. After a few hours he usually becomes discouraged, finding the labor too great.

To combine these indexes into a single file would make the matter a very simple one. It would cost but a fraction of the amount now spent and would speed up the rate of answer as well. Every one realizes this, but no library has been able to finance it. The undertaking lags for lack of a benefactor far-sighted enough to realize the permanent help he can give the Engineering Profession.

Germany has compiled an index in connection with its National Research Department. The Science Museum Library in England is engaged on one now. America has done nothing.

Funds Needed

The Engineering Societies Library is the logical place to do the work in this country. It has the material; it has developed methods through its daily experience; and it has the necessary professional advice at hand. It has long been preparing to do this, but it will not undertake it unless assured that it can be carried out on a scale large enough to be genuinely useful, and on a permanent basis. Already there are too many wrecks of unsoundly financed schemes on the path.

Five thousand dollars a year would be a minimum amount; ten thousand could be well spent in the early years, caring for accumulated material. Fortunately, the task can be done in parts, if funds for the whole were not available.

Perhaps no other single addition to the equipment of engineering libraries of the country would give such large returns for its cost. It ought to appeal to any man of vision who is interested in doing the most helpful thing, even if it is not the most spectacular.

Report of Tellers on Second Ballot for Official Nominees

"33 West 39th Street, New York, N. Y.,
"October 15, 1928.

"To the Secretary
American Society of Civil Engineers:

"The Tellers appointed to canvass the Second Ballot for Official Nominees report as follows:

"Total number of ballots received	2 614
"Deduct:	
Ballots from members in arrears of dues	47
Ballots not signed	13
Ballots with illegible signature	3
Ballots from non-corporate members	2
Ballots from members voting from wrong district	1
Ballots from non-members	2
"Total not entitled to vote	68
"Ballots canvassed	2 546

"For Vice-President, Zone II:	
Arthur James Dyer	489
Herbert Drummond Mendenhall	391
Blank	13
Void	13
Total	906

"For Director, District 3:	
George Harvey Norton	185
Blank	4
Total	189

"For Director, District 5:	
Frank Lee Nicholson	137
Charles Dwight Avery	88
Blank	2
Void	1
Total	228

"For Director, District 7:	
Ralph Budd	250
Elwyn Francis Chandler	73
Blank	18
Total	341

"For Vice-President, Zone III:	
Alonzo John Hammond	524
John Venable Hanna	358
George Harrison Fenkell	214
T. Chalkley Hatton	137
Blank	10
Void	2
Total	1 245

"For Director, District 8:	
Albert Ferdinand Reichmann	303
Blank	38
Total	341

"For Director, District 9:	
Clyde Tucker Morris	94
Wendell P. Brown	92
Arthur Horace Blanchard	80
Blank	3
Void	1
Total	270

"For Director, District 12:	
Joseph Jacobs	100
David Christiaan Henny	77
Ernest Bertrand Hussey	29
Total	206

"Respectfully submitted,
"Ford Kurtz, *Chairman,*
"B. B. Anderson, "Clifford Seaver,
Harold T. Larsen, Benjamin Schwerin,
F. B. Marsh, Ralph H. Mann,
F. H. Robbins, *"Tellers."*

Local Sections*

Cleveland.—September 24, 1928. At the first dinner meeting of the season held in Carnegie Hall, Col. Willard T. Chevalier, Business Manager of the *Engineering News-Record,* gave an interesting address on "The Engineer and the Main Street Dollar". In conclusion, Colonel Chevalier made an appeal to the members, as individuals, to take an active part in matters of civic interest in Cleveland. Attendance 31.

Iowa.—September 12, 1928. At the Annual Meeting of the Section held in Des Moines, the following officers were elected: President, S. M. Woodward; Vice-President, Q. C. Ayres; Secretary-Treasurer, R. B. Kittredge; and Director C. C. Coykendall. Secretary Seabury, spoke informally on Society affairs and led a round-table discussion, after which Mr. Kittredge read a report of the Buffalo Local Sections Conference. Mr. Hayse Black, representing the University of Iowa Student Chapter, and Messrs. Don King and Harry Hoak, representing the Iowa State College Student Chapter, spoke briefly on the work of their respective chapters. Following a dinner, President Lincoln Bush gave an illustrated address on "The Construction of the Tunkhannock Viaduct", after which the meeting was adjourned. The attendance at the afternoon session was 25, and at the dinner, 32.

Northwestern.—September 13, 1928. At the Annual Meeting held at the Athletic Club in St. Paul, Minn., the following officers were elected for the ensuing year: President, J. A. Childs; First Vice-President, H. D. Lovering; Second Vice-President, J. O. Jones; Secretary-Treasurer, Maurice Hewett; and Representative on Minnesota Federal Board, Bernard Blum. Secretary George T. Seabury and Director T. Chalkley Hatton, of Milwaukee, Wis., spoke briefly on Society affairs, after which President Lincoln Bush gave an illustrated address on "The Tunkhannock Viaduct of the Delaware, Lackawanna, and Western Railroad".

Engineering Societies Library

The services of the Engineering Societies Library are available to all members who wish searches, copies, translations, etc., or advice on technical literature. A collection of modern books is also available for loan to members in North America, at moderate rentals. Correspondence should be addressed to the Director, Engineering Societies Library, 29 West 39th Street, New York, N. Y., who will gladly give information concerning the charges for the various kinds of work. A more comprehensive statement in regard to this matter will be found on pages 71 and 72 of the Year Book for 1928.

Book Notices†

(September 2 to September 29, 1928)

Gewölbetabellen, Vereinfachungen für Entwurf und Berechnung Statisch Bestimmter und Unbestimmter Gewölbe. By F. Kögler. Second Edition. Berlin, Julius Springer, 1928. 104 pp., diagrams, tab., paper. 7,50 rm.

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* For list of Local Section Officers, Rules, etc., see 1928 Year Book, p. 46.

† The statements made in these notices are taken from the books themselves, and this Society is not responsible for them. Unless otherwise specified, the books in this list have been donated by publishers.

To aid in calculating statically determinate and indeterminate arches, this book gives tables covering all practicable rises and loads. The accompanying text explains the general principles and the application of the tables.

Ice Engineering. By Howard T. Barnes. Montreal, Renouf Publishing Co., 1928. 366 pp., illus., 9 x 6 in., cloth. $5.00.

Ice is a constant bar to the utilization of northern waters for power and for navigation. Professor Barnes discusses the formation of ice, the various kinds of ice, methods of removing ice from power canals and water-works intakes, the prevention of ice floods, ice navigtion, and ice-breaking.

Manual of Surveying for Field and Office. By Raymond E. Davis. Second Edition. N. Y., McGraw-Hill Book Co., 1928. 401 pp., pl., diagrams, tab., 7 x 4 in., fabrikoid. $3.00.

This pocket manual is intended to teach the practice of surveying to students versed in its theory, and also as a text for short elementary courses. It describes methods of using instruments, making surveys, computing, and mapping.

Parks; A Manual of Municipal and County Parks. Edited by L. H. Weir. N. Y., A. S. Barnes & Co., 1928. 2 v., illus., plans, 11 x 8 in., cloth. $15.00 per set.

These volumes will be indispensable to every one interested in the park problem and outdoor recreation. The planning of park systems, the design of playing fields, construction, administration, organization, engineering, etc., are discussed at length.

Practical Hydraulics: A Series of Rules and Tables. By Thomas Box. Seventeenth Edition. Lond., E. & F. N. Spon, 1928. 112 pp., illus., tab., 8 x 5 in., cloth. 6s.

To this new edition additional tables have been added. The rules cover ordinary hydraulic problems, and the formulas are simple arithmetical ones.

Rational Mechanics. By Richard De Villamil. Lond, E. & F. N. Spon; N. Y., Spon & Chamberlain, 1928. 214 pp., 9 x 6 in., cloth. 10/6.

The author discusses a number of fundamental difficulties in the theory of mechanics. Many now accepted are irrational, in his opinion, and for these he offers substitutes. His book is intended to stimulate independent thinking on basic problems.

Strength of Materials. By Mansfield Merriman. Seventh Edition, Revised by Thaddeus Merriman. N. Y., John Wiley & Sons, 1928. 204 pp., tab., 8 x 5 in., cloth. $1.75.

This textbook is intended to be understood by students with only the ordinary high school acquaintance with mathematics. In this edition new matter has been added on Portland cement and concrete.

Additions to the Reading Room

Handbook of Chemistry and Physics. Comp. by Charles D. Hodgman and Norbert A. Lange. Twelfth Edition. Cleveland, Chemical Rubber Publishing Co., 1927. 1123 pp., tab., 6½ x 4 in., paper. $5.00.

This, the Twelfth Edition, of the Hand Book comprises one hundred pages of new material, including seventy pages of complete five-place tables of the trigonometrical functions and their logarithms. An attempt has been made to include material on all branches of chemistry and physics and the closely allied sciences, which would be likely to find any extended use.

Stevens Master Specifications for Architects and Builders. By Frank B. Stevens, Jr., Assoc. M. Am. Soc. C. E. Chic., Stevens Master Specifications, Inc., 1928. 40 sections, 9 x 11 in., leather. (Gift of the Author.)

This volume places before architects and engineers the complete data essential to a proper description of their drawings, with a view to avoiding duplication and omission, simplifying contracts, preventing misunderstandings, and abetting the speed and efficiency of construction.

Current Civil Engineering Literature

Key to Abbreviated References to Publications Indexed*

Abbreviated References.	Publication.	Place.
Am. C. Inst.	*American Concrete Institute, Proceedings* (Y.)	Detroit
A. I. E. E.	*American Institute of Electrical Engineers Journal* (M.)	New York
A. R. E. A.	*American Railway Engineering Association, Proceedings* (Y.)	Chicago
A. S. T. M.	*American Society for Testing Materials, Proceedings* (Y.)	Philadelphia
Am. Soc. C. E.	*American Society of Civil Engineers, Proceedings* (M.)	New York
Am. Soc. Mun. Impvts.	*American Society for Municipal Improvements, Proceedings* (Y.)	New York
Am. W. W. Assoc.	*American Water Works Association, Journal* (M.)	Baltimore
Am. Wood Prs. Assoc.	*American Wood Preservers Association, Proceedings* (Y.)	Chicago
Ann. P. et C.	*Annales des Ponts et Chaussées* (Bi-M.)	Paris
Ann. T. P. Belg.	*Annales des Travaux Publics de Belgique* (Bi-M.)	Brussels
Assoc. Ing. Gand.	*Annales de l'Association des Ingénieurs sortis des Ecoles Spéciales de Gand* (Q.)	Ghent
Bost. Soc. C. E.	*Boston Society of Civil Engineers, Journal* (M.)	Boston
Can. Engr.	*Canadian Engineer* (W.)	Toronto
City Plan.	*American City Planning Institute* (Q.)	Boston
Comwlth Engr.	*Commonwealth Engineer* (M.)	Melbourne
Conc.	*Concrete* (M.)	Chicago
Cornell C. E.	*Cornell Civil Engineer* (M.)	Ithaca
Dock & Harbour	*Dock and Harbour Authority* (M.)	London
Eng.	*Engineering* (W.)	London
Eng. & Contr.	*Engineering and Contracting* (M.)	Chicago
Eng. Inst. Can.	*Engineering Institute of Canada, Journal* (M.)	Montreal
Eng. N. R.	*Engineering News-Record* (W.)	New York
Engr. Soc. W. Pa.	*Engineers' Society of Western Pennsylvania, Journal* (M.)	Pittsburgh
Engr.	*Engineer* (W.)	London
Engrs. & Eng.	*Engineers and Engineering, Engineers' Club of Philadelphia* (M.)	Philadelphia
Gas und Wasser.	*Gas und Wasserfach*	Munich
Gen. Civ.	*Le Génie Civil* (W.)	Paris
Gesund. Ing.	*Gesundheits Ingenieur* (W.)	Munich
Inst. C. E.	*Institution of Civil Engineers Minutes of Proceedings* (Q.)	London
Inst. Mun. & Co. Engrs.	*Institution of Municipal and County Engineers, Journal* (W.)	London
Int. Ry. Cong. Assoc.	*International Railway Congress Association, Bulletin* (M.)	Brussels
Land. Arch.	*Landscape Architecture* (Q.)	Boston
Mech. Eng.	*Mechanical Engineering* (M.) *Journal of the American Society of Mechanical Engineers*	New York
Mil. Engr.	*Military Engineer* (Bi-M.)	Washington
Min. & Metal.	*Mining and Metallurgy* (M.) *American Institute of Mining Engineers*	New York
Mun. N. & W. W.	*Municipal News & Water Works* (M.)	Chicago
N. E. W. W. Assoc.	*New England Water Works Association, Journal* (Q.)	Boston
N. Y. R. R. Club	*New York Railroad Club, Proceedings* (M.)	Brooklyn
Oest. Ing. Arch. Ver.	*Oesterreichischer Ingenieur und Architekten Verein, Zeitschrift* (F.)	Vienna
Power	*Power* (W.)	New York
Public W.	*Public Works* (M.)	New York
Rev. Gen.	*Revue Générale des Chemins de Fer* (M.)	Paris
Ry. Age	*Railway Age* (W.)	New York
Ry. Eng. & Main.	*Railway Engineering and Maintenance* (M.)	Chicago
R. & S.	*Roads and Streets* (M.)	Chicago
Schw. Bauz.	*Schweizerische Bauzeitung* (W.)	Zurich
Sci. Am.	*Scientific American* (M.)	New York
Soc. Ing. Civ. Fr.	*Société des Ingénieurs Civils de France, Mémoires et Comptes Rendus* (Q.)	Paris
Tech. Gemein.	*Technisches Gemeindeblatt* (F.)	Berlin
Ver. deu. Ing.	*Verein deutscher Ingenieure, Zeitschrift* (W.)	Berlin
West. Constr. N.	*Western Construction News* (F.)	San Francisco
West. Ry. Club	*Western Railway Club, Proceedings* (M.)	Chicago
West. Soc. Engrs.	*Western Society of Engineers, Journal* (M.)	Chicago
Zeit. Bau.	*Zeitschrift für Bauwesen* (Q.)	Berlin
Z. d. Bauver.	*Zentralblatt der Bauverwaltung* (W.)	Berlin

* Y = Yearly; Q = Quarterly; M = Monthly; F = Fortnightly; W = Weekly.

B. Applied Mechanics

a. Mechanics of Solids (Strength of Materials)

6. Heterogeneous Solids (Reinforced Materials)

Le Calcul des Pièces Fléchies et Comprimées en Béton Armé.* (The Calculation of Reinforced Concrete Bent and Compressed Members.) H. Ravizé. Gen. Civ. Aug. 11, '28.

b. Hydraulics

2. Physical Hydraulics

Die "Lummert" Formel zur Ermittelung des Widerstandes von fliessendem Wasser in ganz gefüllten, gebrauchten, eisernen Rohrleitungen.* (The "Lummert" Formula for the Determination of the Resistance of Flowing Water in Completely Filled, Used, Iron Pipe Lines). A. Vogt. Gas und Wasser. July 7, '28.

The Conowingo Hydroelectric Development on the Susquehanna River. Alex. Wilson 3rd. A. I. E. E. Sept., '28.

Alouette Hydro-Electric Development.* Can. Engr. Sept. 4, '28.

Roller and Sector Gates on Hydro Plants in Norway.* Oren Reed Eng. N. R. Sept. 6, '28.

Velocity Head in Centrifugal Pumps.* Geo. H. Gibson. Can. Engr. Sept. 11, '28.

L'Alimentation de l'Usine Electrique d'Artouste par le Lac du Même Nom (Hautes-Pyrénées).* (Supplying the Artouste Electric Works from Artouste Lake (Haute-Pyrenees). J. Leclerc du Sablon. Gen. Civ. Aug. 4, '28.

Etudes sur Modèles Réduits du Barrage de Pizançon, sur L'Isère. Détermination du Radier Produisant le Minimum d'Affouillements à l'Aval.* (Studies on Models of Pizancon Dam on the Isere. Determination of the Dam-"Apron" Producing the Least Undermining Downstream.) C. Camichel and L. Escande. Gen. Civ. Aug. 11, '28.

Die neue Wasserkraftanlage "Sofienhütte," in Böhlerwerk.* (The New "Sofienhütte" Water Power Installation at Böhlerwerk.) Eugen Weiss. Oest. Ing. Arch. Ver. Aug. 17, '28.

4. Riveted Systems

Some Adjustments of Stresses in Arch Rings of Arch Dams.* F. W. Hanna and T. L. E. Haug. West. Constr. N. Sept. 10, '28.

C. Materials of Construction and General Processes

a. Lime, Cement, Mortar, Concrete, Brick, Bitumen, Timber, Gravel, etc.

An Exact Basis of Proportioning. Joseph A. Kitts. Conc. Sept., '28.

Method for Determination of the Permeability of Concrete.* Ira L. Collier. (Paper read before A. S. T. M.) Eng. & Contr. Sept., '28.

Some Accelerated Freezing and Thawing Tests on Concrete.* C. H. Scholer. (From paper read before A. S. T. M.), Eng. & Contr. Sept., '28.

Brief Tests on the Permeability of Concrete.* Herbert E. Jones. Sept. 10, '28.

L'Usinage des Bois Africains.* (Working African Woods.) J. Petitpas. Soc. Ing. Civ. Fr. Mar., '28.

Nouvelles Précisions sur la Maladie de Certains Bétons de Ciment Alumineux.* (New Facts on the Disease of Certain Aluminous Cement Concretes.) E. Freyssinet and A. Coyne. Gen. Civ. Aug. 11, '28.

Die Luftdurchlässigkeit von Baustoffen und Baukonstruktionsteilen.* (The Air-Permeability of Building Materials and Structural Parts.) E. Raisch. Gesund. Ing. July 28, '28.

b. Metals

Essais de Recéption des Aciers pour Constructions Métalliques.* (Acceptance Tests of Steels for Metal Constructions.) Ch. Fremont. Gen. Civ. Aug. 11, '28.

c. Preservation and Use of Materials, Painting, Waterproofing

Treated Timber Still Good After 45 Years of Exposure.* W. B. Gregory. Eng. N. R. Sept. 6, '28.

e. Earthwork, Cubage, Excavating Machinery

Die Berücksichtigung des Raumfehlers bei der Erdmassenermittlung von Dämmen und Einschnitten.* (The Consideration of the Volume Error in the Determination of Earth Masses in Dams and Excavations.) Erich Biermann. Z. d. Bauver. July 25, '28.

g. Execution of Works, Specifications

2. Of Concrete

Designing Tanks of Concrete. E. Coteland Snelgrove. (Paper read before Inst. Struc. Engrs.) Can. Engr. Aug. 28, '28.

A Plastic Mortar Compression Test for Cement.* Edward M. Brickett. Conc. Sept., '28.

Reinforced Concrete Design Simplified. Chart E—Web Reinforcing.* James R. Griffith. Conc. Sept., '28.

4. Of Metal

Steel Erection Methods Observed on New Building for Chicago Daily News.* Eng. & Contr. Sept., '28.

Steel Frame of Office Building 564 Ft. High.* Eng. N. R. Sept. 20, '28.

h. Foundations, Bridge Piers and Abutments

Foundation Work for Spencer Street Bridge, Melbourne.* W. D. Chapman. Comwlth Engr. Aug. 1, '28.

Caisson Foundations for San Francisco Building Rapidly Constructed by Drill-Type Excavator.* West. Constr. N. Aug. 10, '28.

The Caisson Slipped.* Lloyd Llewellyn. Sci. Am. Sept., '28.

Résistance du Terrain à la Charge des Constructions. Théorie des Fondations.* (Resistance of the Terrain to the Weight of Constructions. Theory of Foundations.) Van Iterson. Soc. Ing. Civ. Fr. Mar., '28.
Zur Frage der Berechnung von Mastgründungen grosser Abmessungen unter schwierigen Bodenverhältnissen.* (On the Question of the Calculation of Large Mast Foundations under Difficult Ground Conditions.) A. Kleinlogel. Ver. deu. Ing. Aug. 4, '28.
Gewölbe auf elastischen Pfeilern.* (Arches on Elastic Columns.) Edgar Schmidt. Z. d. Bauver. Serial beginning Aug. 8, '28.

x. Miscellaneous

Bedeutende Ingenieurbauwerke Hollands.* (Important Dutch Engineering Works.) Schw. Bauz. Serial beginning Aug. 11, '28.

D. Highways

c. Construction

The Canning Road Between Fremantle and Perth, W. A.* E. Tindale. Comwlth. Engr. Aug. 1, '28.
Building a Motor Highway from Florida Mainland to Key West.* T. M. Garrett. (From *Du Pont Magazine.*) Eng. & Contr. Sept., '28.
Concrete Pavement Over Poor Sub-Grade at Port Newark, New Jersey.* Chester Mueller. Am. Soc. C. E. Sept., '28.
A New Jersey Concrete Road Job.* Public W. Sept., '28.
Mechanical Spreading, Raking, Finishing of Asphalt Concrete Pavement. C. S. Pope. Public W. Sept., '28.
Water Cement Ratio in Lawrence.* Public W. Sept., '28.
Recent Trends in City Pavements. W. W. Horner. (Abstract of paper read before Fourteenth Annual Road School.) Public W. Sept., '28.
Wear Tests of Concrete.* Harold Allen. Conc. Sept., '28.
Reinforced Approach Slabs for Highway Bridges.* W. H. Rabe. Eng. N. R. Sept. 6, '28.
Two Methods of Resurfacing Old Roads.* A. H. Hinkle. (Paper read before Annual Purdue Road School.) Can. Engr. Sept. 18, '28.
Confection en Régie de Revêtements Modernes en Tunisie.* (Preparation of Modern Pavement Standards in Tunis.) G. Garbe. Ann. P. et C. May, '28.

h. Vehicles, Automobiles, Traffic

Directional Traffic Control; The Experience of Schenectady.* Richmond D. Moot. City Plan. July, '28.
The Practical Utility of Highway Transport Surveys.* G. F. Schlesinger. Am. Soc. C. E. Sept., '28.
The Engineer's Part in Making the Highway Safe. A. H. Hinkle. Am. Soc. C. E. Sept., '28.

E. Bridges, Viaducts and Arches

b. Iron and Steel Bridges and Viaducts

The Design of the Carquinez Strait Bridge.* D. B. Steinman. West. Soc. Engrs. Aug., '28.
Erection of Carquinez Strait Bridge.* Charles F. Goodrich. West. Soc. Engrs. Aug., '28.
S. P. Co. to Build $12 000 000 Bridge.* West. Constr. N. Aug. 25, '28.
Three Stages in the Life of a Viaduct.* L. B. Curtiss. Ry. Eng. & Main. Sept., '28.
Design and Construction of Railroad and Highway Bridge in Maine.* Eng. & Contr. Sept., '28.
Demolition of a Steel Highway Bridge.* G. B. Troland. Mil. Engr. Sept.–Oct., '28.
Lichtbogenschweissung von Eisenkonstruktionen.* (Arc Welding Railroad Structures.) Karl Bung. Ver. deu. Ing. Aug. 11, '28.
Die Hebung der Eisenbahn-Rheinbrücke zwischen Buchs und Schaan.* (Raising the Railroad Bridge Over the Rhine between Buchs and Schaan.) R. Kaiser. Schw. Bauz. Aug. 25, '28.

c. Stone Bridges and Viaducts

Le Viaduc en Maçonnerie de la Bonne sur la Ligne de La Mure (Isère) à Gap (Hautes-Alpes).* (The Bonne Masonry Viaduct on the Line from La Mure (Isere) to Gap (Hautes-Alpes).) Pierre Delattre. Gen. Civ. Aug. 25, '28.

d. Concrete and Reinforced Concrete Bridges and Viaducts

The Kopu Bridge Over the Thames River, N. Z.* F. W. Furkert. Comwlth. Engr. Aug. 1, '28.
Reinforced-Concrete Bridge Over the Piave at Belluno, Italy.* Eng. Sept. 7, '28.
Arthur Kill Bridges Paved with Joggled and Vibrated Concrete.* Eng. N. R. Sept. 20, '28.
Expériences Effectuées sur le Pont en Béton Armé de Corbeil.* (Experiences Obtained at the Corbeil Reinforced Concrete Bridge.) Aubert. Ann. P. et C. May, '28.

f. Suspension Bridges. Transfer Bridges

Hängebrücke aus Kettenstäben mit Versteifungsträger bei Florianopolis in Brasilien.* (Chain-Rod Suspension Bridge with Stiffener Beams at Florianopolis in Brazil.) Eger. Z. d. Bauver. Aug. 1, '28.

g. Swing, Bascule, Lift, Floating, Oscillating Bridges; Traveling Cranes

The Newark Bay Bridge of the Central Railroad Company of New Jersey.* J. J. Yates. West. Soc. Engrs. Sept., '28.

x. Miscellaneous

San Francisco Transbay Bridge.* A. A. Brown. West. Constr. N. Sept. 10, '28.

F. Inland Waters and Waterways

a. Natural Waterways (General Articles)

Advances in Waterways Engineering During a Half Century. Discussion: W. M. Black. Am. Soc. C. E. Sept., '28.

c. Regulation of Waterways—Volume of Discharge, Freshets, Floods, Soundings

Maximum Flood Discharge in San Joaquin Valley, California.* Discussion: Oren Reed. Am. Soc. C. E. Sept., '28.

Flood Control on the River Po in Italy. Discussion: John P. Hogan, William B. Gregory, John R. Slattery, Arthur P. Davis, and G. de Thierry. Am. Soc. C. E. Sept., '28.

Progress Report of Special Committee on Flood-Protection Data. Discussion: Charles A. Pohl. Am. Soc. C. E. Sept., '28.

d. Diverting Dams, Locks, Lifts, Elevators, Inclined Planes

Note sur le Procédé d'Exécution des Travaux de Reconstruction du Siphon de la Biette (Canal d'Aire).* (Note on the Reconstruction Methods Used on the Biette Siphon (Aire Canal).) Héduy. Ann. P. et C. May, '28

Antrieb für Schiffshebewerke mittlerer Hubhöhe.* (Drive for Ship Elevator of Medium Height.) P. Vollmer and P. Vogelsang. Ver. deu. Ing. Aug. 18, '28.

Die Kachletstufe bei Passau.* (The Kachlet Lift at Passau.) Dantscher. Ver. deu. Ing. Aug. 18, '28.

g. Consolidation of Banks, Leakage, Maintenance of Channel

The Head-Works of the Imperial Canal. Discussion: E. S. Lindley. Am. Soc. C. E. Sept., '28.

Taming a Turbulent Torrent.* E. T. Scott. Sci. Am. Sept., '28.

G. Maritime Works

d. Roads and Outer Harbors. Dikes and Jetties. Breakwaters

The Construction of Noyo Jetties.* Geo. F. Whittemore. Mil. Engr. Sept.–Oct., '28.

f. Maritime Rivers and Canals, Bank Protection

Engineering Features of the Zuyderzee Works.* J. W. Thierry. (Paper read before British Assoc.) Eng. Sept. 7, '28.

g. Dredges and Dredging. Force Pumps. Refloating and Removing Wrecks. Ice-Breakers.

Dredging as an Aid in Levee Construction.* S. C. Godfrey. Mil. Engr. Sept.–Oct., '28.

h. Wharves, Mooring Buoys, Harbor Equipment

New Toulon Graving Docks.* Dock & Harbour Sept., '28.

Les Nouvelles Grues Electriques à Mécanisme de Relevage Rapide du Port de Santander (Espagne).* (The New Electric Cranes with Rapid Lifting Mechanism for the Port of Santander (Spain).) J. Urereta. Gen. Civ. Aug. 4, '28.

i. Harbors

The Port of Dordrecht.* Dock & Harbour Sept., '28.

The Port of New Orleans. Dock & Harbour Sept., '28.

Port of Leith.* Dock & Harbour Sept., '28.

H. Railroads. Street and Interurban Railways. Automobiles. Aeronautics

a. Railroads

1. General Articles

The Centralisation and the Simplification of Mileage Statistics and the Rational Solution of the Problem of the Swiss Federal Railways.* Georges Harcavi. Int. Ry. Cong. Assoc. Aug., '28.

Grand Mere-Shawinigan Track Diversion.* Can. Engr. Aug. 28, '28.

Ironing Out a Mountain Railway.* Ry. Age Sept. 1, '28.

Die Dovrebahn in Norwegen.* (The Dovre Railway in Norway.) Saller. Z. d. Bauver. Aug. 1, '28.

Verbesserung der Eisenbahnverbindung Deutschland-Ostschweiz.* (Improving the Germany-East Switzerland Railroad Connection.) Wilhelm Weber. Schw. Bauz. Aug. 18, '28.

4. Track

How Long Will Fence Posts Last.* Ry. Eng. & Main. Sept., '28.

What Causes Mechanical Deterioration of Ties.* Hermann Von Schrenk. Ry. Eng. & Main. Sept., '28.

Consistent Program Improves Track Drainage.* E. F. Robinson. Ry. Eng. & Main. Sept., '28.

5. Signals and Safety Apparatus

An Ingenious Semi-Automatic Signalling Installation.* (From *Modern Transport.*) Int. Ry. Cong. Assoc. July, '28.

Flashing Lights in Railway Working. C. W. Prescott. (From *Modern Transport.*) Int. Ry. Cong. Assoc. July, '28.

Power Supply for Railway Signals and Automatic Train Control. C. F. King, Jr. A. I. E. E. Sept., '28.

Crossing Gates Replaced by Flashing-Light Signals.* T. R. Ratcliff. Ry. Age Sept. 1, '28.

South Shore Line Uses Spring Switches on Heavy Traffic Line.* B. L. Smith. Ry. Age Sept. 8, '28.
Stellwerkneubauten auf dem Bahnhof Erfurt.* (New Switch-Tower Constructions at the Erfurt Station.) Landwehr. Z. d. Bauver. Aug. 8, '28.
Neuere Stellwerkgebäude der Reichsbahndirektion Berlin.* (Recent Switch Tower Constructions for the Berlin Reichs Railway Management.) Brademann. Z. d. Bauver. Aug. 8, '28.

6. Rolling Stock (Locomotives, Cars) Fuel

Irregular Vibratory Movements of Electric Locomotives with Inclined Connecting Rods.* Kurt Vossius. Int. Ry. Cong. Assoc. Aug., '28.
Two North Western Passenger Trains Newly Equipped.* Ry. Age Sept. 1, '28.
Baltimore & Ohio "President Cleveland" Locomotive.* Ry. Age Sept. 1, '28.
Performance of Motor-Generator Locomotives.* P. A. McGee. Ry. Age Sept. 8, '28.
The "Rheingold" Train on the German State Railways.* Ry. Age Sept. 15, '28.
Note sur les Echappements de Locomotives.* (Note on Locomotive Exhausts.) Andre Chapelon. Rev. Gen. Serial beginning Aug., '28.
Hochdruck-Lokomotive "Winterthur" für 60 at Kesseldruck.* (High-Pressure "Winterthur" Locomotive for 60 Atmospheres Boiler Pressure.) J. Buchli. Schw. Bauz. Serial beginning June 2, '28.

8. Stations, Terminals, Engine Houses, Shops

The Main Passenger Station of the New Milan Station.* Alberta Fava. Int. Ry. Cong. Assoc. July, '28.
Reconstruction of a Large Railway Engineering Depot.* (From *The Railway Engineer.*) Int. Ry. Cong. Assoc. July, '28.
New York Central Conducts Large Salvage Operations.* Ry. Age Aug. 25, '28.
Texas and Pacific Terminal Embodies Noteworthy Innovations.* Ry. Age Sept. 15, '28.

9. Technical and Commercial Use

Railway Road Services in French.* (From *Modern Transport.*) Int. Ry. Cong. Assoc. July, '28.
Missouri Pacific Stimulates Agricultural Progress.* Ry. Age Sept. 8, '28.

b. Special Railroads

2. Aerial Railroads (Funicular, Monorail)

Aerial Ropeway at Carrara, Italy.* Eng. Aug. 31, '28.

3. Narrow Gauge. Light Railways.

Novel Methods Used in Widening Narrow Gage Line.* Ry. Age Sept. 8, '28.
Raccordements Paraboliques de Longeurs Egales à Celles des Raccords de Surhaussement en Voie de un Mètre.* (Parabolic Easements of the Same Length as Those of the Outer Rail Connections on Meter Gage Track.) Nicolas. Ann. P. et C. May, '28.

d. Street Railways, Elevated Railways, Subways.

4. Track

Rebuilding Street Railway Track at Cincinnati.* Eng. N. R. Sept. 6, '28.

f. Aeronautics

1. General Articles

Some of the Principles of Airport Planning.* Eng. N. R. Sept. 6, '28.

2. Dirigible Balloons

The Government Airship R 101.* Engr. Aug. 31, '28.

3. Aeroplanes

The Design of Airplane Wing-Beams.* Discussion: Alfred S. Niles. Am. Soc. C. E. Sept., '28.

4. Aerodromes and Landing Fields

Municipal Airports.* Public W. Sept., '28.
Technische Einrichtungen der Flugplätze.* (Technical Arrangements for Airports.) Roberr Gsell. Schw. Bauz. June 23, '28.

I. Municipal Water-Works. Agricultural Engineering. Irrigation

a. General Articles

Stock and Domestic Water Supply Development in the Mallee Area of New South Wales. Comwith. Engr. Aug. 1, '28.
Report of the Committee of the Irrigation Division on "A National Reclamation Policy." Am. Soc. C. E. Sept., '28.
Mount Airy Waterworks.* Preson P. Phillips. Public W. Sept., '28.
Springfield's New Water Supply Developments.* Public W. Sept., '28.
Evaluation of Water Rights.* Discussion: Joseph Jacobs, Fred H. Tibbetts, Charles R. Hedke, Fred C. Scobey, Lyman E. Bishop, and R. L. Parshall. Am. Soc. C. E. Sept., '28.
Administrative Water Problems.* A Symposium. Discussion: M. C. Hinderlider, R. I. Meeker, Lynn Crandall, and E. B. Debler. Am. Soc. C. E. Sept., '28.
Water-Supply Struggles of a Small Southern City.* Preson P. Phillips. Eng. N. R. Sept. 6, '28.
Storage Yards and Buildings of Denver Water-Works.* Eng. N. R. Sept. 13, '28.

b. Hydrology, Water Resources

Concrete Spur Dikes Maintain Deep River Channel.* Lloyd B. Smith. Eng. N. R. Sept. 20, '28.
Grundwassernachweis für Tammerfors in Finnland.* (Location of Ground Water for Tammerfors in Finland.) Gagneur. Gesund. Ing. July 28, '28.
Art und Ausdehnung zentraler ländlicher Wasserversorgungen in Württemberg und Baden.* (Type and Extent of Central Rural Water Supplies in Württemberg and Baden.) Erwin Burkarth. Gas und Wasser. Aug. 4, '28.

c. Dams and Reservoirs

Stony Gorge Dam.* J. L. Savage and H. J. Gault. West. Constr. N. Aug. 10, '28.
Lafayette Rolled Earth-Fill Dam.* Philip Schuyler. West. Constr. N. Aug. 25, '28.
Load Distribution in High Arch Dams. Discussion: William Cain and B. F. Jakobsen. Am. Soc. C. E. Sept., '28.
Uplift Under Dams.* C. E. Pearce. West. Constr. N. Sept. 10, '28.
Reports of Engineers on Stability of Los Angeles Water Department Dams and Reservoirs.* West. Constr. N. Sept. 10, '28.
Covered Reservoir Combines Precast and Poured Concrete.* George D. Reichert. Eng. N. R. Sept. 13, '28.
Features of Design, Coolidge Multiple-Dome Dam.* C. R. Olberg. Eng. N. R. Sept. 13, '28.
Placing Gate Valves Under Water in Reservoir.* Charles B. Burdick. Eng. N. R. Sep. 13, '28.
Construction Features, Coolidge Multiple-Dome Dam.* Eng. N. R. Sept. 20, '28.
Vergleichende Versuche mit Wassermessern.* (Comparison Experiments with Water Meters.) Weidlich. Gas und Wasser. July 14, '28.
Die Wahl der Gewölbestärke bei Bogenstaumauern.* (The Selection of Arch Thickness in Arch Dams.) R. Maillart. Schw. Bauz. Aug. 4, '28.
Die Herstellung von Rohren nach dem Schleuderverfahren.* (The Manufacture of Pipe by the Centrifugal Process.) C. Pardun. Ver. deu. Ing. Aug. 11, '28.

d. Analysis and Purification of Water

Chlorination of Swimming Pool Water.* R. F. Heath. Can. Engr. Aug. 28, '28.
Progress Report of the Committee of the Sanitary Engineering Division of Filtering Materials for Water and Sewage Works. Discussion: J. W. Armstrong, Harry N. Jenks, and J. N. Chester. Am. Soc. C. E. Sept., '28.
Water Softening at Piqua.* J. M. Montgomery. (Paper read before Ohio Conference on Water Purification.) Public W. Sept., '28.
Sequoia and Wildcat Concrete-Pipe Aqueducts.* Philip Schuyler. West Constr. N. Sept. 10, '28.
Determination of Residual Chlorine. L. H. Enslow. (Paper read before Maryland Water & Sewage Assoc.) Can. Engr. Sept. 11, '28.
Measurement of the Quality of Water. Jack J. Hinman, Jr. (From Iowa Academy of Science *Proceedings*.) Can. Engr. Sept. 11, '28.
Blowing Odor Out of Water Supply of St. Paul with Air.* Ross A. Thuma. Eng. N. R. Sept. 13, '28.
Badewasserreinigung.* (Purification of Bath Water.) W. Olszewski. Gesund. Ing. July 28, '28.
Beiträge zur Differenzierung der organischen Stoffe im Wasser.* (Contributions on the Differentiation of the Organic Substances in Water.) K. Keiser. Tech. Gemein. July 5, '28.
Die Untersuchung der Hallenschwimmbäder.* (The Study of Indoor Swimming Pools.) H. Ilzhöfer. Gesund. Ing. Aug. 11, '28.
Erfahrungen beim Bau und Betriebe von Tauchkörpern.* (Experiences in the Construction and Operation of Contact Aerators.) Mahr and F. Sierp. Tech. Gemein. Serial beginning Aug. 20, '28.

e. Distribution of Water

Roosevelt Irrigation District, Arizona.* M. E. Ready and A. V. Saph. West. Constr. N. Aug. 25, '28.
Trans-Mountain Water Diversions.* A Symposium. Discussion: A. Lincoln Fellows and Ralph Bennett. Am. Soc. C. E. Sept., '28.
Return Water and Drainage Recovery from Irrigation.* A Symposium. Discussion: R. I. Meeker and Fred H. Tibbetts. Am. Soc. C. E. Sept., '28.
Report of the Duty of Water Committee of the Irrigation Division of the Consumptive Use of Water in Irrigation.* Discussion: Harold Conkling. Am. Soc. C. E. Sept., '28.
Man-Hour Costs of Water-Main Trenching and Pipelaying.* A. E. Walden and A. F. Di Domenico. Eng. N. R. Sept. 13, '28.
The Merits of Seven Kinds of Pumping Equipment Compared.* Paul Hansen. Eng. N. R. Sept. 13, '28.
Vergleichende Versuche mit Wassermessern.* (Comparison Experiments with Water Meters.) Weidlich. Gas und Wasser. July 14, '28.
Die Herstellung von Rohren nach dem Schleuderverfahren.* (The Manufacture of Pipe by the Centrifugal Process.) C. Pardun. Ver. deu. Ing. Aug. 11, '28.

f. Drainage of Land

Report of the Committee of the Irrigation Division on Drainage of Irrigated Lands.* Discussion: M. R. Lewis. Am. Soc. C. E. Sept., '28.
Ueber Qualmwasser und seine Bekämpfung.* (Drainage, or Seepage, Water and Methods of Fighting It.) M. Schirmer. Z. d. Bauver. Aug. 15, '28.

J. Sewerage. Sewage and Refuse Disposal

a. Sewers and Drains

Early Strength Concrete Required in Building Shallow Depth Drain.* Dwight F. Jennings. Conc. Sept., '28.
County Sewer District Work in Ohio and Assessment of Cost According to Benefits.* E. G. Bradbury. Am. Soc. C. E. Sept., '28.

b. Sewage Disposal, Purification

Sewage Disposal at Colac, Victoria.* Comwlth. Engr. Aug. 1, '28.
Why Sewage Treatment Plants Fail to Function Properly.* Chester A. Smith. West. Constr. N. Aug. 10, '28.

'Sewer Farm' at Tucson, Arizona, to be Irrigated with Settled Sewage.* F. M. Veatch. West. Constr. N. Aug. 25, '28.
Putting Imhoff Tanks Into Service. Wellington Donaldson. (Paper read before N. J. Sewage Assoc.) Public W. Sept., '28.
Sewage Treatment Abroad.* Willem Rudolfs. (Paper pub. by Dept. Sewage Disposal, New Brunswick, N. J.) Public W. Sept., '28.
Contact Aerator at Rochester, New York.* Public W. Sept., '28.
Progress Report of the Committee of the Sanitary Engineering Division on Filtering Materials for Water and Sewage Works. Discussion: J. W. Armstrong, Harry N. Jenks, and J. N. Chester. Am. Soc. C. E. Sept., '28.
Sewage-Works Designed to Meet Needs of Automobile Town.* Walter R. Drury. Eng. N. R. Sept. 6, '28.
Precast Concrete Simplifies Imhoff Tank Work.* Walter L. Couse. Eng. N. R. Sept. 20, '28.
L'Evacuation des Eaux Usées et L'Application aux Sables-d'Olonne du Système d'l: "A Chasses d'Air."* (The Evacuation of Used Waters and the Application of the "A Chasses d'Air" (Expelled by Air) System to Sables-d'Olonne). F. Daguin. Soc. Ing. Civ. Fr. Mar., '28.
Neuere ununterbrochen arbeitende Filter für schlammige Massen.* (Recent Continuous Filters for Slimy Substances.) Kurt W. Geisler. Ver. deu. Ing. Aug. 4, '28.

K. Heat Engines

b. Steam Turbines

Abnahmeversuche an einer 80 000 kw-Turbodynamo des Grosskraftwerkes Klingenberg.* (Acceptance Tests on a 80 000 kw Turbodynamo at the Klingenberg Power Plant.) W. E. Wellman. Ver. deu. Ing. Aug. 4, '28.
Dampfverbrauchs-Messungen an einer dreigehäusigen 16 000 kw Brown Boveri Dampf-Turbine in Rotterdam.* (Steam Consumption Measurements on a Triple-Cased 16 000 kw Brown Boveri Steam Turbine in Rotterdam. D. Dresden. Schw. Bauz. Aug. 4, '28.

c. Gas and Oil Engines

A 4 000 B. H. P. Double-acting Twp-stroke Oil Engine.* Engr. Aug. 31, '28.

L. Electricity

b. Distribution and Transmission of Electricity

1. Power Plants
Electrical Features of the Conowingo Generating Station and the Receiving Stations in Philadelphia.* R. A. Hentz. A. I. E. E. Sept., '28.
2. Long Distance Transmission of Energy
Development of Pole Line Construction.* E. F. Hinch. (Paper read before Assoc. Mun. Elec. Utilities.) Can. Engr. Sept. 4, '28.
x. Miscellaneous
Electric Energy and National Defense. A. H. Markwart. Mil. Engr. Sept.–Oct., '28.

c. Electric Lighting

2. Uses
Engineering Problems in Theatre and Stage Lighting.* W. C. Brown. West. Soc. Engrs. Sept., '28.

f. Signals and Communication

The Cupar Receiving Station of the Transatlantic Telephone System.* Eng. Aug. 24, '28.
Radio Acoustic Position Finding in Hydrography.* Jerry H. Service. A. I. E. E. Sept., '28.

M. Architecture

a. Educational, Government and Scientific Buildings

Die neue staatliche Burgschule in Konigsberg i. Pr.* The New Public "Burgschule" in Konigsberg i. Pr.) Z. d. Bauver. Aug. 1, '28.

c. Residences, Hotels

Le Problème du Logement en France et la Construction des Habitations à Bon Marché.* (The Housing Problem in France and the Construction of Cheap Houses.) Paul Razous. Gen. Civ. Serial beginning Aug. 4, '28.

e. Hospitals and Asylums

Altersheim in Niederpégnitz a. d. Elbe.* (Home for the Aged in Niederpegnitz a. d. Elbe.) Höpker. Z. d. Bauver. Aug. 15, '28.

f. Factories and Mill Buildings

Pulp and Paper Mill at Limoilou, Que.* A. B. McEwen. Can. Engr. Sept. 11, '28.
New Paper Mill at Port Arthur, Ont.* E. Smith. Can. Engr. Sept. 18, '28.

g. Other Buildings

Unusual Engineering Features of An Immense Theatre Building.* Discussion: A. Floris, Laurence J. Waller, and R. McC. Beanfield. Am. Soc. C. E. Sept., '28.
Garage Has Mechanical Handling for Cars.* Eng. N. R. Sept. 6, '28.

x. Miscellaneous

When Art Replaces Ugliness.* Sci. Am. Sept., '28.

O. Administration. Legislation. Economics. Statistics

b. Economic Questions of a General Character, Valuations

Should Engineers on Appraisal Work Tell the Truth? Gregory M. Dexter. Eng. N. R. Sept. 20, '28.

Work of Engineers in the City Manager Plan. E. W. Steel. Mil. Engr. Sept.–Oct., '28.

d. Administrative and Financial Management of Means of Communication

x. Miscellaneous

Plan of Water-Works Management at Madison, Wis.* L. A. Smith. Eng. N. R. Sept. 13, '28.

S. City Planning

Why City Planning is Good for Sound Real Estate Development. L. F. Eppich. City Plan. July, '28.

Esthetic Regulation in City Planning. Frank Backus Williams. City Plan. July, '28.

Regional Planning of Happy Valley, Tennessee.* John Nolan. City Plan. July, '28.

Imagination in City Planning. Discussion: W. W. Crosby and Arthur A. Shurtleff. Am. Soc. C. E. Sept., '28.

The Scope and Importance of City Planning.* Carey H. Brown. Mil. Engr. Sept.–Oct., '28.

Employment Service

The Engineering Societies Employment Service is under the joint management of the National Societies of Civil, Mining, Mechanical, and Electrical Engineers. A Chicago office is maintained in co-operation with the Western Society of Engineers, and a San Francisco office, in co-operation with the Engineers' Club of San Francisco and the California Section of the American Chemical Society. The Service is available only to the several memberships and is maintained by contributions from the Societies and their individual members who are directly benefited.

Offices.—Eastern Office, 31 West 39th Street, New York, N. Y., Walter V. Brown, Manager; Chicago Office, 205 West Wacker Drive, 1216 Engineering Building, Chicago, Ill., A. Krauser, Manager; and San Francisco Office, 57 Post Street, Room 715, San Francisco, Calif., Newton D. Cook, Manager.

Men Available.—Under this heading, brief announcements will be published without charge. These announcements will not be repeated, except on request received after an interval of one month. Names and records will remain in the active files of the Service for a period of three months, and are renewable on request. Notices for *Proceedings* should be addressed to Employment Service, 31 West 39th Street, New York, N. Y., and should be received prior to the first of the month.

Opportunities.—A Bulletin of engineering positions available is published weekly and may be obtained by members of the Societies concerned at a subscription rate of $3 per quarter, or $10 per annum, payable in advance. Positions which are not filled promptly as a result of publication in the Bulletin, may be announced herein.

Voluntary Contributions.—Members obtaining positions through the medium of this Service are invited to co-operate with the Societies in the financing of the work by nominal contributions made within thirty days after placement, on the basis of 1½% of yearly salary; temporary positions (of one month or less), 3% of total salary received. The income contributed by the members, together with the finances appropriated by the four Societies named, will be sufficient, it is hoped, not only to maintain but to increase and extend the Service.

Replies to Announcements.—Replies to announcements published herein, or in the Bulletin, should be addressed to the key number indicated in each case, with a two-cent stamp attached for re-forwarding, and forwarded to the Employment Service at the address given. Replies received by the Service after the positions to which they refer have been filled, will not be forwarded.

MEN AVAILABLE

CIVIL ENGINEER, M. Am. Soc. C. E.; single. About 15 years on water supply construction, maintenance, and operation, also hydro-electric construction, preferring water from the dam up; also, about 15 years' experience along the lines of city engineer with highway and railroad location, construction, and maintenance. Speaks Spanish, will go to Latin America or the Far East. A–5380.

STRUCTURAL ENGINEER, Assoc. M. Am. Soc. C. E.; age 33; married; Mass. Inst. Tech., Master of Science in C. E. Ten years' experience, designing, estimating, and constructing concrete and steel structures of all types. Perfect knowledge of Russian and French. American citizen, desires responsible executive position requiring technical ability and experience. Location, New York City or Europe. B–1168.

M. AM. SOC. C. E., 1909; M. A. R. E. A., 1912; broad and varied experience, office and field, over 35 years, United States, France, West Indies, locating, designing, constructing railroad, bridge, building, industrial, metallurgical plants, power stations, public utility works; original research, reports, appraisal. Native born; single; speaks, reads, and writes French; technical, editorial writing. B–4594.

CIVIL ENGINEER EXECUTIVE, Assoc. M. Am. Soc. C. E.; age 45; married. Graduate, United States Naval Academy and Rensselaer Polytechnic Institute. Thirteen years' experience, design, construction and maintenance water-front work, plant distributing systems, building construction. Six years, water supply work, design dams, outlet works, aqueducts, investigations, and reports. Desires responsible permanent position, New York City or vicinity preferred. B–5130.

CIVIL ENGINEER, M. Am. Soc. C. E., twenty-eight years' experience in engineering design and construction. Highway, canals, sewerage, municipal, water supply, public buildings, reconnaissance, surveys, investigations, reports. Desires responsible position. Good personality; executive ability. Now employed; available on short notice. Location, Eastern United States. B–5666.

CIVIL ENGINEER; age 25; 1924 graduate of New York University, School of Civil Engineering. Outside and inside experience on concrete roads; light steel structure designer; experienced as chief of party. Would like to get into contracting. B–6471.

CIVIL ENGINEER, M. Am. Soc. C. E. Twenty-five years' experience on hydro-electric, irrigation, and highway work and in exploration. Intimately acquainted with conditions in Central America and the West Indies. Prepared to make investigations and reports or superintend construction or operation of Latin-American projects. B–7788.

OFFICE ENGINEER OR CONTRACTING REPRESENTATIVE, M. Am. Soc. C. E. Fourteen years' architectural design, especially residences. Employed various capacities, draftsman, assistant engineer, superintendent of extensive lighthouse district. Twelve years' administrative engineer, submarine foundations, wharves, sea walls, revetments, jetties. Minimum salary, $3 600. New York City preferred. B–8446.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; Cornell graduate; age 29. Eight years' construction experience, including six years in active charge as resident engineer on highway grading, paving, and bridges. Experienced in concrete work and design of concrete mixes. Desires connection with construction or private engineering organization. Details and references upon request or interview. B–9486.

CIVIL ENGINEER, M. Am. Soc. C. E.; 23 years' experience, design and construction of steel and reinforced concrete bridges, buildings, etc., railroad, and municipal works. Open for position as chief engineer, superintendent, or similar. B–9497.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E., with experience in design and estimate of subway and elevated structures as well as their construction; has been field engineer for underpinning and foundation contractors; experience with pile and reinforced concrete foundations. Would like to connect with building construction or foundation contractors. C–170.

CIVIL ENGINEER, M. Am. Soc. C. E.; age 39; graduate. Nineteen years' experience in designing, estimating, and constructing, industrial plants, power houses, and reinforced concrete structures. Now chief engineer of contracting engineers. Has successfully developed an organization to handle large projects. Three years' supervision of sales of engineering services. Location desired, East or South. C–795.

HIGHWAY AND MUNICIPAL ENGINEER, Assoc. M. Am. Soc. C. E.; age 40; married. Fifteen years' experience on roads, streets, and sewers as engineer and contractor's superintendent. Capable executive. Recently, district engineer of highway department of large Eastern State. Desires connection with contractor or municipality. Location, Eastern or Southern States. C–3017.

DESIGNER, Jun. Am. Soc. C. E.; age 25; single; graduate; with three years' experience both field and office on public utility work, hydro-electric plants, transmission and distribution systems. Includes survey and location work, inspection, structural design, and hydraulic studies. Location, East. C–3025.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; age 23; graduate, Rensselaer, 1927. Worked 3 months in concrete testing laboratory; 10 months as superintendent of plant manufacturing concrete sewer pipe. Experienced in surveying. Wishes work in sewerage and water-works. Willing to start at the bottom. At present employed. C–3200.

POWER CONSTRUCTION ENGINEER, Jun. Am. Soc. C. E.; age 27; married; qualified to be in charge of field engineering as assistant construction engineer on power plants, transmission lines, dams, and hydraulic works, or to assist in structural and concrete design for power structures. Location, no preference. C–3351.

CIVIL AND SANITARY ENGINEER, Assoc. M. Am. Soc. C. E.; age 43; university graduate. Twenty years' professional experience covering water supply, sewage disposal, paving, railroads, highways, building design and construction. Seven years in Central and South America, including four years on Panama Canal during construction period. Served as Colonel during World War. C–4866.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; 27 years' experience; 7 years designing, estimating, investigations, reports; 20 years in field as general superintendent and construction superintendent on general construction; especially excavation, bridge and building foundations, wooden and reinforced concrete piers, wharves, terminal developments and buildings, floating dry docks. Location, United States or West Indies. C–4954.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; age 26; B. S. and C. E. Degrees; Licensed Structural Engineer, New Jersey. One year, highway, survey, and construction. Four years, railroad, design of steel and

masonry structures. Prefers construction company or consulting engineer. Location, New York City, New Jersey, or Philadelphia, Pa., preferred. C–5048.

SANITARY ENGINEER, Jun. Am. Soc. C. E.; age 26; single; college graduate; 1½ years in charge of purification for a water company. C–5050.

MATHEMATICALLY TALENTED CIVIL ENGINEER; graduate, German Master degree; age 28; with five years' design and construction experience on water power and industrial developments, desires position, where he can improve his knowledge of modern dam design, either as engineer in organization doing power plant construction, or as assistant at University. C–5058.

ENGINEER, Assoc. M. Am. Soc. C. E.; two degrees from University of Michigan; age 35; married. Varied experience, civil engineering, electrical, mechanical work. Assistant construction superintendent on construction and installation, power house. Building superintendent, including mechanical supervision for architects, construction large commercial and educational buildings. Location, prefer Washington or Oregon. C–5069–89–A–2. San Francisco.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; age 32; married; graduate civil engineer. Resident engineer on earth-fill dam; construction engineer on a hydraulic fill dam, tunnel, highways, canals, bridge piers, and cement plant. Experienced on investigations, designs, cost, and reports on irrigation and hydraulic projects. C–5070–89–A–1. San Francisco.

CONTRACTORS' SUPERINTENDENT OR ENGINEER, Assoc. M. Am. Soc. C. E.; varied experience of twenty years, covering railroad engineering and construction work, municipal engineering and construction work; State highway construction; cost and bidding analysis. Wide experience in grade crossing elimination, storm sewers. C–5075.

CIVIL ENGINEER, Cornell graduate. Five years' experience, designing and detailing concrete and steel, subways, buildings, industrial plants, etc. Desires position with architect, consulting engineer or contractor. C–5119.

Membership

(From September 5 to October 2, 1928)

Additions

Members		Date of Membership.
ANDERSON, Oscar August. Structural Engr., Dept. of Public Works (Res., 1407 North Cedar St.), Tacoma, Wash.	Assoc. M.	Aug. 27, 1928
ANDERSON, Ralph Oliver. Structural Steel Designer, St. Louis Structural Steel Co., 2095 Railway Exchange Bldg., St. Louis, Mo.	Assoc. M.	Aug. 27, 1928
ATKINSON, Lynn Smith, Jr. Contr. (Res., 324 Muirfield Rd.), Los Angeles, Calif.	Affiliate	Aug. 27, 1928
BATHAM, William Stanley. Holmleigh, Granville Rd., Sevenoaks, Kent, England.	Assoc. M. M.	June 16, 1924 July 16, 1928
BAUR, Edward Bertrand. Field Engr., Sewer Constr., City of Toledo (Res., 1912 Princeton Drive), Toledo, Ohio.	Assoc. M.	July 16, 1928
BENNETT, Harrie Ewen. City Engr. (Res., 1027 South Ohio St.), Mercedes, Tex.	Assoc. M.	Aug. 27, 1928
BOLE, James Renwick. Structural Draftsman, Bethlehem Steel Co. (Res., 62 East Market St.), Bethlehem, Pa.	Jun.	July 16, 1928
BRADLEY, George Donald. Sales Engr. (Tourtellotte-Bradley, Inc.), 314 Seneca St., Seattle, Wash.	Affiliate	Aug. 27, 1928
BURRIS, Michael Murray. Landscape and Civ. Engr. (J. H. Holcombe, Inc.), 11 West State St., Trenton, N. J.	Assoc. M.	Aug. 27, 1928
BYXBEE, John Fletcher. City Engr. and Executive Officer, Board of Public Works (Res., 355 Alma St.), Palo Alto, Calif.	M.	July 16, 1928
CIAMPA, Felix Anthony. Engr. in Chg., Elwyn E. Seelye, Inc., 101 Park Ave., New York (Res., 319 Halsey St., Brooklyn), N. Y.	Assoc. M.	Aug. 27, 1928
CLARK, George Edward. Engr. and Surv., Rock Creek and Potomac Parkway Comm. (Res., 3301 Porter St., N. W.), Washington, D. C.	Assoc. M.	April 23, 1928
CLAUSEN, Robert Eskilson. Care, Los Angeles & Salt Lake R. R., 472 Pacific Elec. Bldg., Los Angeles, Calif.	Jun.	Aug. 27, 1928
COLTMAN, Robert, Jr. Chf. Engr., Charles H. Tompkins Co. (Res., 1472 Ogden St.), Washington, D. C.	M.	Aug. 27, 1928
COTTRELL, Ensign Stover. (G. E. Higgins Eng. Co.), 317 Wieting Blk., Syracuse, N. Y.	M.	Aug. 27, 1928
DAVIS, Francis Marion. Box 624, Albany, Tex.	Jun.	July 16, 1928
DeLINE, Ralph Arthur. Structural Engr. (Erick & DeLine), 620½ West 6th St., Los Angeles, Calif.	M.	Aug. 27, 1928
DESAI, Dahyabhai Shivabhai. Desaivago, Nadiad, India	Jun.	Mar. 5, 1928
EBERHART, Alanson Clyde. Project Engr., Dept. of Public Works, Valentine, Nebr.	Assoc. M.	April 23, 1928
FARKAS, Nicholas. Designer and Field Engr., Portable Stadium Co., 11 West 42d St. (Res., 1231 Fulton Ave.), New York, N. Y.	Jun.	April 23, 1928
FERNEAU, Thomas Edgar. Asst. to Constr. Engr., Southern Section, Bridge Dept., State Div. of Highways, 1104 Sun Finance Bldg., Los Angeles, Calif.	Jun. Assoc. M.	April 18, 1927 Aug. 27, 1928
FINLAYSON, Robert Archebald. Madison Sq. Apartments, Apartment 434, Gary, Ind.	Jun.	April 23, 1928
FLORANCE, Edwin. Eng. Asst., Public Service Production Co., 80 Park Pl., Newark (Res., 161 Livingston Ave., New Brunswick), N. J.	Jun. Assoc. M.	May 28, 1923 Aug. 27, 1928
FREEBORN, Cornelius Cooper, Jr. Madison and Park Aves., Dumont, N. J.	Assoc. M.	Aug. 27, 1928
FROST, John. Engr., Philadelphia Elec. Co. (Res., 6504 Chew St.), Philadelphia, Pa.	Assoc. M.	Aug. 27, 1928
GOLDSMITH, Saul. Designer and Supt., Lincoln Eng. & Constr. Co., Flushing (Res., 4914 Church Ave., Brooklyn), N. Y.	Jun.	Aug. 27, 1928
GRAM, Andrew Luythsen. New Redondo Hotel, Redondo, Calif.	Assoc. M.	Aug. 27, 1928
HALL, Joseph William. Asst. Engr., Los Angeles County Flood Control Dist., 1013 San Gabriel Ave., Azusa, Calif.	Jun.	July 16, 1928
HASSAN, Alexander. Asst. Engr. of Tests, Newark Concrete Pipe Co. (Res., 10 Warren Pl.), Newark, N. J.	Jun.	April 23, 1928
HAVENSTEIN, Percy Walter. Engr., Viele, Blackwell & Buck, 49 Wall St., New York (Res., 3326 One Hundred and Sixty-fifth St., Flushing), N. Y.	M.	Aug. 27, 1928
HERTEL, Frederick Ernest. Asst. to Chf. Structural Engr., Stone & Webster, Inc., 49 Federal St., Boston (Res., 107 Porter St., Melrose), Mass.	M.	June 4, 1928

MEMBERS—(*Continued*)

		Date of Membership.
HILL, Walter Ormsby. Asst. Div. Engr., State Highway Comm. (Res., 1307 West High St.), Jefferson City, Mo.	Assoc. M.	Aug. 27, 1928
HOLLMAN, John George. Gen. Supt. of Constr., São Paulo Tramway, Light & Power Co., Ltd., São Paulo, Brazil.	Assoc. M. M.	Sept. 10, 1918 July 16, 1928
HORNER, Arthur Clinton. Mgr., Western Div., National Lumber Mfrs., Assoc., 500 Call Bldg., San Francisco, Calif.	Assoc. M.	Aug. 27, 1928
JACKSON, James Oscar. Chf. Engr., Pittsburgh-Des Moines Steel Co., Professional Bldg., Pittsburgh (Res., 27 Creighton Ave., Crafton), Pa.	M.	Aug. 27, 1928
KELLY, Francis Joseph. 324 North Centre St., Cumberland, Md.	Assoc. M.	Mar. 5, 1928
KIMBERLY, Clifford Bailey. Dist. Engr., U. S. Fidelity & Guaranty Co., Midland Bldg., Kansas City, Mo.	Assoc. M.	Aug. 27, 1928
KING, Austin John. Cons. Engr. and Coal Operator, Box 508, Huntington, W. Va.	M.	Aug. 27, 1928
KLEPPE, Reidar. Field Engr., Lago Petroleum Corporation, Maracaibo, Venezuela.	Assoc. M.	July 16, 1928
KNAPP, Lloyd Dunaway. Special Asst. Engr., City of Milwaukee, 1114 Fifty-fourth St., Milwaukee, Wis.	Assoc. M.	Aug. 27, 1928
LOCKE, Norman Walter. County Surv., Wood County; Res. Engr., State Dept. of Highways (Res., 213 South Prospect St.), Bowling Green, Ohio.	Assoc. M.	Aug. 27, 1928
LUHRS, Albert Weigand. Pres. and Chf. Engr., Container Testing Laboratories, Inc. (Res., Flagge St.), Rockaway, N. J.	Jun. Assoc. M.	May 12, 1919 Aug. 27, 1928
MANEY, George Alfred. Prof., Structural Eng., Northwestern Univ. (Res., 821 Forest Ave., Apartment 3), Evanston, Ill.	M.	Mar. 5, 1928
MELBY, Grover Odd. Structural Designer, Western Elec. Co., Inc. (Res., 1729 North Narragansett Ave.), Chicago, Ill.	Jun.	Mar. 5, 1928
MILLER, Earle Valentine. Engr. of Plans, State Highway Dept. (Res., 1105 North 5th St.), Phœnix, Ariz.	Assoc. M.	Aug. 27, 1928
PAULSEN, Carl Emil. Architectural Engr., Mann & Co., Room 722, Rorabaugh-Wiley Bldg., Hutchinson, Kans.	Jun. Assoc. M.	Dec. 3, 1926 Aug. 27, 1928
PAWLIKOWSKI, Godfrey. Hotel Winchester, Winsted, Conn.	Jun.	Aug. 27, 1928
PEREIRA, Armando de Arruda. Director Industrial and Associate, Ceramica São Caetano S/A, Caixa Postal 1930, São Paulo, Brazil.	Jun. Assoc. M. M.	Jan. 15, 1917 April 25, 1921 July 16, 1928
PFAU, Herrmann Frederick. Room 614, Hall of Records, New York (Res., 28 Wolffe St., Yonkers), N. Y.	Assoc. M.	Aug. 27, 1928
PUMPHREY, John Walter. Res. Engr., Gilbert C. White Co., 202 Court Arcade, Charlotte, N. C.	Jun. Assoc. M.	June 19, 1922 Aug. 27, 1928
PUTNAM, Charles Edgar. Prin. Asst. Highway Engr., State of Washington (Res., 4606 South G St.), Tacoma, Wash.	M.	Aug. 27, 1928
ROEBLAD, Sven Gottfrid. Structural Engr., Aberthaw Co., 80 Federal St., Boston (Res., 17 Arthur St., Braintree), Mass.	M.	Aug. 27, 1928
ROGERS, Albert William. With Public Works Dept., Dominican Republic, Box 1185, Santo Domingo, Dominican Republic.	Jun. Assoc. M.	July 12, 1926 Aug. 27, 1928
RUPP, George Wellington. Chf. Engr., Dept. of Public Works State of Washington (Res., 418 Maple Park), Olympia, Wash.	Assoc. M.	Aug. 27, 1928
SADLOW, Joseph Frank. Archt. Supt., Crow, Lewis & Wick, New York (Res., 8428 Eighty-sixth Rd., Woodhaven), N. Y.	Affiliate	Aug. 27, 1928
SANDSTROM, Arthur Charles. Care, Whitehall Securities Corporation, Ltd., 47 Parliament St., London S. W. 1, England.	Assoc. M. M.	May 31, 1916 July 16, 1928
SMITH, Chauncey Lester. Constr. Engr., Way and Structures Dept., The Milwaukee Elec. Ry. & Light Co., Public Service Bldg. (Res., 975 Frederick Ave.), Milwaukee, Wis.	Assoc. M.	Aug. 27, 1928
SPENCER, Raymond Dana. Asst. Engr., Olmsted & Gillelen, 1112 Hollingsworth Bldg., Los Angeles (Res., 842 North Fuller Ave., Hollywood), Calif.	Jun.	Aug. 27, 1928
STETLER, Marvin Mayfield. Designing Engr., Mosher Steel & Machinery Co. (Res., 3831 Normandy), Dallas, Tex.	Jun. Assoc. M.	Nov. 26, 1923 April 23, 1928
STICKNEY, Edward Elias. Superv. Engr., Div. of Highways, State Dept. of Public Works, Binghamton, N. Y.	Assoc. M.	Aug. 27, 1928
STILSON, Burton A. Engr. in Chg., Fuller & McClintock, 170 Broadway, New York, N. Y. (Res., 138 Columbus Drive, Tenafly, N. J.)	Jun.	June 4, 1928
STIVERS, Sherman Harry. Cons. Engr., 805 Mills Bldg., Washington, D. C.	M.	Aug. 27, 1928
STURGES, Ward Herindeen. Asst. Constr. Mgr., Fenestra Constr. Co., 9 East 38th St. (Res., 67 West 231st St.), New York, N. Y.	Jun.	Mar. 5, 1928
TRAFZER, Ernest Allen. With Celite Products Co. (Res., 10508 Blythe Ave.), Los Angeles, Calif.	Assoc. M.	Aug. 27, 1928
TRAHERN, James William. Asst. Engr., East Bay Municipal Utility Dist., Camp Pardee, Valley Springs, Calif.	Jun.	Aug. 27, 1928

MEMBERS—(*Continued*)		Date of Membership.
UHR, Saul. Structural Engr., Le Roy B. Rothschild (Res., 1028 West Wyoming Ave.), Philadelphia, Pa.	Assoc. M.	Aug. 27, 1928
WALTERS, John William. Asst. Chf. Engr., Board of Public Utilities and Transportation, Los Angeles, Calif.	Assoc. M.	Aug. 27, 1928
WATSON, Leslie James. Civ. Engr. and Supt. of Lands, Alexander & Bladwin, Ltd., Honolulu, Hawaii.	Jun. Assoc. M.	July 11, 1921 July 16, 1928
WATSON, William Francis. Care, J. G. Watson, Dornoch Terrace, West End, Brisbane, Queensland, Australia.	Assoc. M.	Mar. 5, 1928
WEISS, Benjamin. Asst. Engr. to Cons. Engr., Borough of Queens, 68 Hunterspoint Ave., Long Island City (Res., 73 Terrace Ave., Jamaica), N. Y.	Assoc. M.	Aug. 27, 1928
WEST, Ray Benedict. 6219 Rockwell St., Oakland, Calif.	M.	Aug. 27, 1928
WHITE, Duane Kidder. Structural Designer, Holabird & Roche, 1400 Monroe Bldg., Chicago (Res., 2316 Sherman Ave., Evanston), Ill.	Assoc. M.	Aug. 27, 1928
WILLIAMS, Ralph Stanley. Civ. and Architectural Engr., 5096 Plankinton Bldg., Milwaukee, Wis.	Assoc. M.	Aug. 27, 1928

Deaths

ABBOT, Frederic Vaughan. Elected Member, December 3, 1884; died September 26, 1928.
BENTLEY, John Clark. Elected Associate Member, May 31, 1910; died September 24, 1928.
BIXBY, William Herbert. Elected Member, April 5, 1882; died September 29, 1928.
BURKE, William Charles. Elected Member, April 12, 1926; died July 21, 1928.
CHENEY, Herbert Neal. Elected Associate Member, February 6, 1907; Member, September 1, 1908; died September 12, 1928.
HAIGHT, Silas Maxwell. Elected Member, June 6, 1927; died September 29, 1928.
HOWARD, Ralph Hills. Elected Member, July 2, 1913; died September 20, 1928.
HOWELL, David Janney. Elected Member, September 5, 1900; died August 28, 1928.
POPE, James Bond. Elected Member, February 4, 1914; died July 13, 1928.
RABLIN, John Richard. Elected Member, August 31, 1909; died September 17, 1928.
ROBERTS, Theodore Charles. Elected Member, September 11, 1917; died September 28, 1928.
SCHOENBERGER, George Christian. Elected Associate Member, November 27, 1917; died September 24, 1928.
STALEY, Cady. Elected Member, March 17, 1869; died June 27, 1928.
WILSON, Henry William. Elected Member, September 6, 1876; died September 18, 1928.
WYMAN, Peter Parker. Elected Associate Member, November 9, 1920; died August 16, 1928.

Total Membership of the Society, October 2, 1928

Members	**5 511**	
Associate Members	**5 830**	
Corporate Members		**11 341**
Honorary Members		**15**
Juniors		**1 744**
Affiliates		**138**
Fellows		**7**
Total		**13 245**